

Application No.: 10/523,577
 Docket No.: JCLA 16061

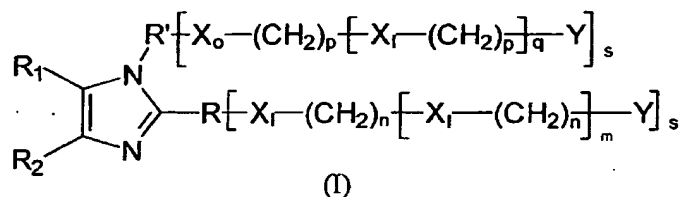
RECEIVED
 CENTRAL FAX CENTER

APR 03 2007

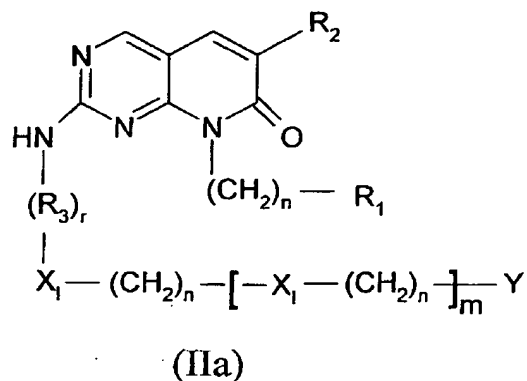
IN THE CLAIMS

Claims 1-50 (canceled)

51. (withdrawn) A medium for separating at least one ATP binding protein from a pool of proteins, the medium comprising at least one compound of the general formula I



formulas IIa and IIb (compound class B)



Application No.: 10/523,577
Docket No.: JCLA 16061

and each s is independently selected to be 0 or 1, with the proviso that $s = 0$ if R or R' is H ,

each R_1 is independently selected from $-H$, $C_1 - C_6$ alkyl (linear or branched), bicyclo[3.3.1]heptanyl, or an unsubstituted or partially or fully substituted $C_3 - C_8$ cycloalkyl, aryl, pyridinyl or pyrimidinyl, substituted by $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $-NHCHR_2R_2$, $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, partially or fully halogenated $C_1 - C_6$ alkyl and/or $-X_1-(CH_2)_n-Y$ ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

each R_2 is independently selected from $-H$, $C_1 - C_6$ alkyl (linear or branched), an unsubstituted or partially or fully substituted aryl, substituted by $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $C_1 - C_6$ alkyl (linear or branched), $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, and/or $C_1 - C_6$ partially or fully halogenated alkyl ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), and

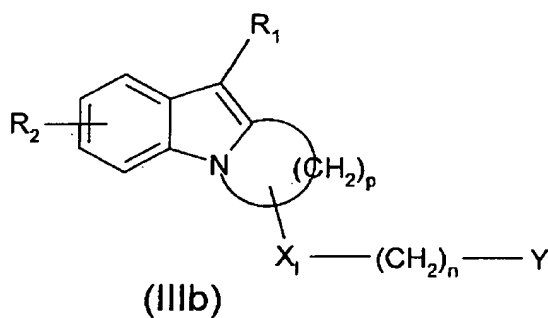
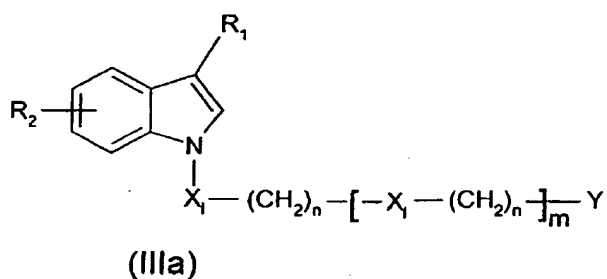
each R_3 is independently selected from X , an unsubstituted or partially or fully substituted aryl, pyridinyl or pyrimidinyl, substituted by $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $-NHCHR_1R_1$, $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, and/or partially or fully halogenated $C_1 - C_6$ alkyl ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear

Application No.: 10/523,577

Docket No.: JCLA 16061

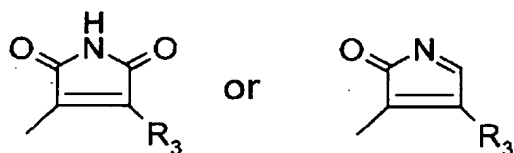
or branched, C₁ – C₆-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

formulas IIIa and IIIb (compound class C)



wherein

each R₁ is independently selected from



each R₃ is independently selected from -indolyl, N- (C₁ – C₆ alkyl)-indolyl (alkyl is linear or branched), -NHR_{1'}, -S-R_{1'}, or -O-R_{1'},

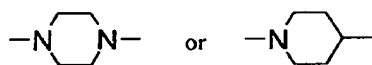
Application No.: 10/523,577

Docket No.: JCLA 16061

R_1' is $-H$, $C_1 - C_6$ alkyl (linear or branched) or aryl,

each R_2 is independently selected from $-H$, $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $C_1 - C_6$ -alkyl (linear or branched), $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, and/or $C_1 - C_6$ partially or fully halogenated alkyl ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

each X is independently selected from $-CH_2-$, $-NH-$, $-O-$, $-S-$,



each Y is independently selected from $-NH_2$, $-NHR_1$, $-OH$, $-SH$ or $-SO(CH_3)$,

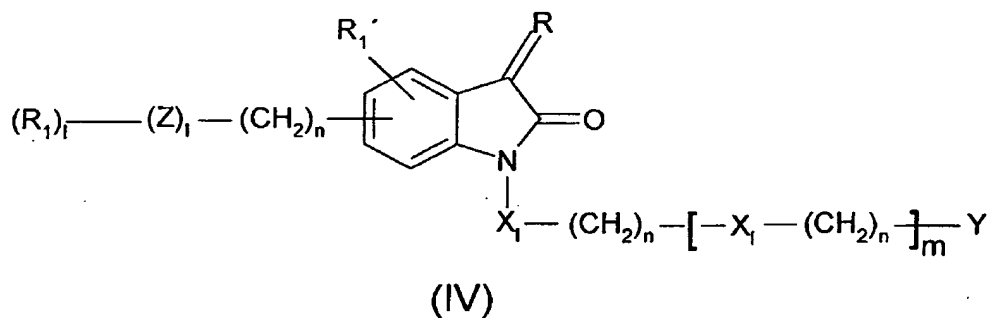
each l is independently selected to be 0 or 1,

m is an integer from 0 to 10,

each n is independently selected to be an integer from 0 to 10,

p is an integer from 2 to 6

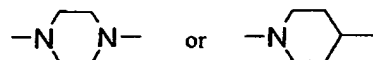
formula IV (compound class D)



Application No.: 10/523,577

Docket No.: JCLA 16061

wherein

each X is independently selected from $-\text{CH}_2-$, $-\text{NH}-$, $-\text{O}-$, $-\text{S}-$,each Y is independently selected from $-\text{NH}_2$, $-\text{NHR}_1$, $-\text{OH}$, $-\text{SH}$ or $-\text{SO}(\text{CH}_3)$,Z is $-\text{SO}_2-\text{NR}_1\text{R}_1$, $-\text{CO}$, $-\text{O}-\text{CO}-$, $-\text{NH}-\text{CO}-$, $-\text{COO}-$, $-\text{CO}-\text{NH}-$, $-\text{OCH}_2-$, $-\text{SCH}_2-$,

each l is independently selected to be 0 or 1,

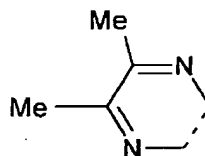
m is an integer from 0 to 10,

each n is independently selected to be an integer from 0 to 10,

R is $=\text{CR}_1\text{L}$, $=\text{N}-\text{NH}-\text{L}$,

each R_1 is independently selected from $-\text{H}$, $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), unsubstituted or partially or fully substituted aryl, pyridinyl, pyrimidinyl, $\text{C}_3 - \text{C}_8$ cycloalkyl substituted by $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{CN}$, $-\text{OH}$, $-\text{SH}$, $-\text{NH}_2$, $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or $\text{C}_1 - \text{C}_6$ partially or fully halogenated alkyl ($\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group, $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group, $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group, $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{COOH}$, $-(\text{CH}_2)_n-\text{OH}$, oxazolyl, thiazolyl, thienyl, pyrrolyl, furanyl, imidazolyl, pyrazolyl, pyridinyl, pyrimidinyl,

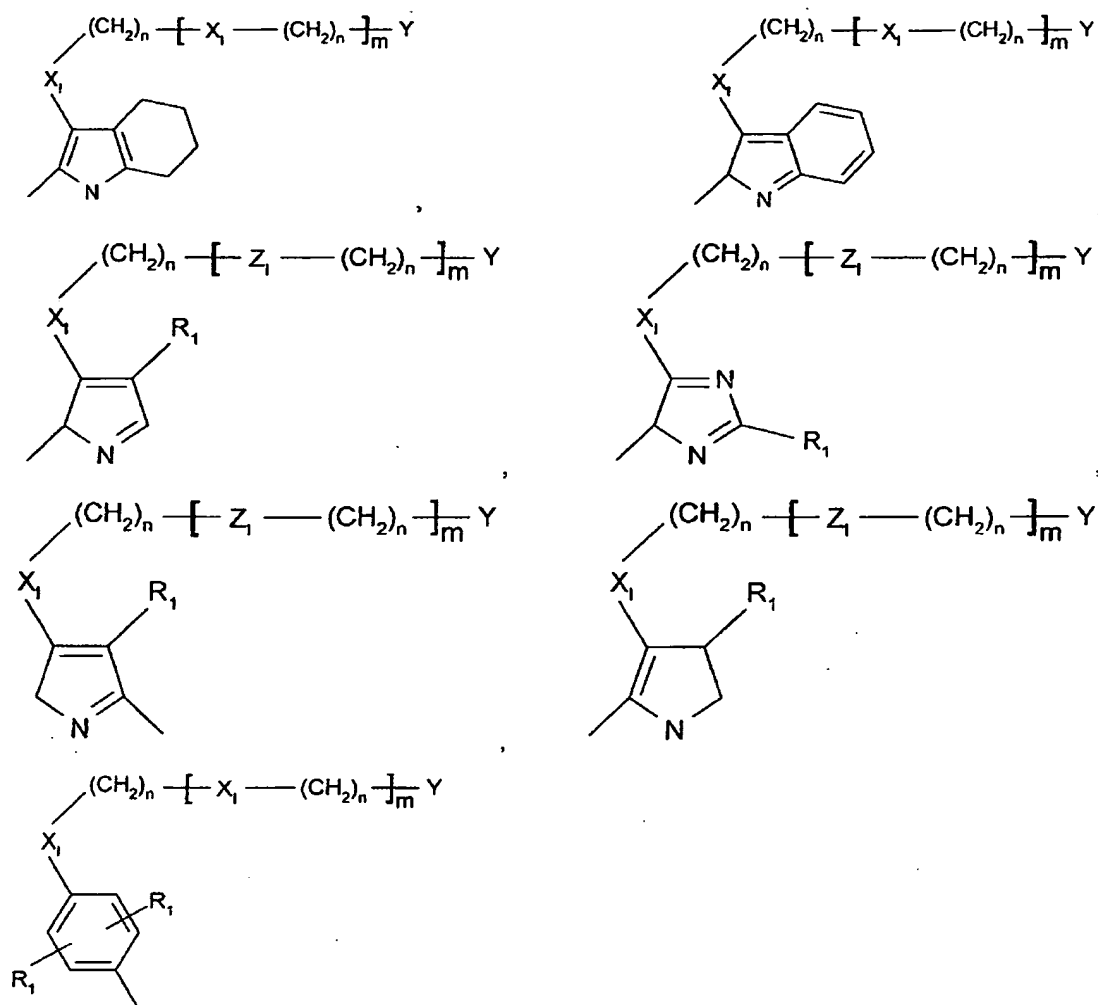
R_1' is independently selected from H or R_1 and R_1' may form together the following substituted ringsystem



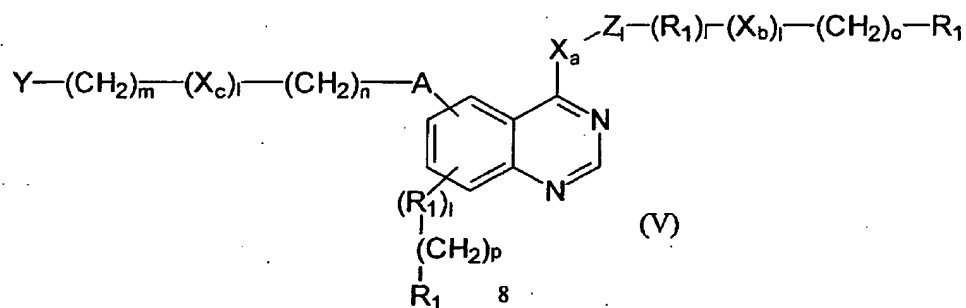
L is

Application No.: 10/523,577

Docket No.: JCLA 16061

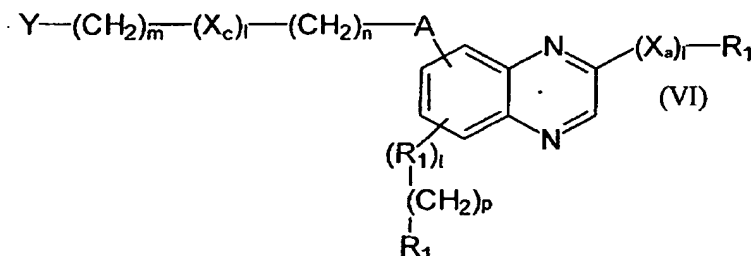


formulas V and VI (compound class E and F)

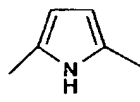
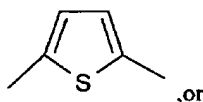
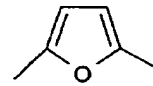
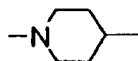
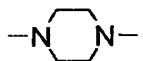


Application No.: 10/523,577

Docket No.: JCLA 16061



wherein

A, X_a, X_b, and X_c are independently selected to be Z, -CH₂-, -NH-, -O-, -S-,each Y is independently -NH₂, -NHR₁, -OH, -SH or -SO(CH₃),each Z is independently selected from -SO₂-NR₁-, -CO-, -O-CO-, -NH-CO-, -COO-, -CO-NH-, -CS-NH-, -OCH₂-, -SCH₂-, or -NH-CO-NH-,

each l is independently selected to be 0 or 1,

each m is independently selected to be an integer from 0 to 10,

each n is independently selected to be an integer from 0 to 10,

each o is independently selected to be an integer from 0 to 10,

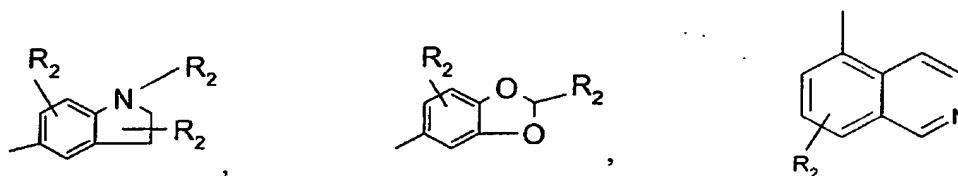
each p is independently selected to be an integer from 0 to 10,

each R₁ is independently selected from -H, -O-, C₁ - C₆ alkyl (linear or branched), C₁ - C₆-alkoxy, C₁ - C₆ -alkylthio, C₁ - C₆ -haloalkyloxy, C₁-C₆ partially or fully halogenated alkyl, unsubstituted or partially or fully substituted C₃ - C₈ cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH₂,

Application No.: 10/523,577

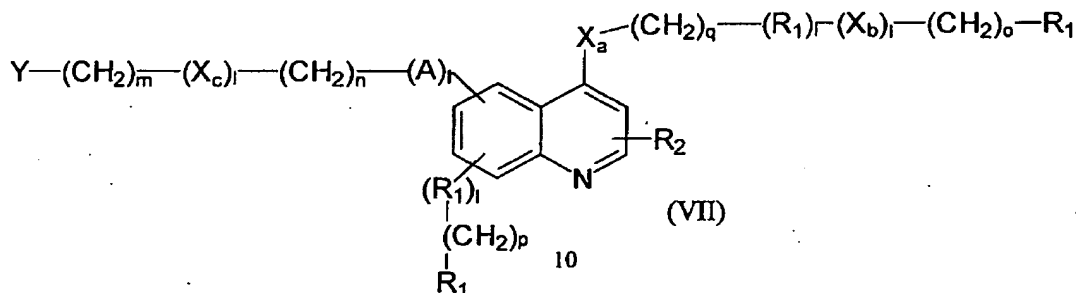
Docket No.: JCLA 16061

$-\text{CONH}_2$, $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), $-\text{C}\equiv\text{C}-(\text{CH}_2)_n-\text{CH}_3$, $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or $\text{C}_1 - \text{C}_6$ partially or fully halogenated alkyl ($\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),



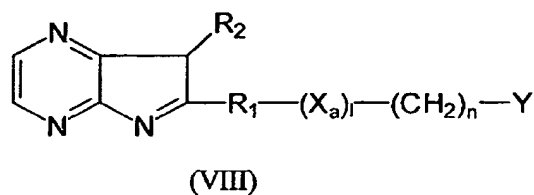
each R_2 is independently selected from $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{CN}$, $-\text{OH}$, $-\text{SH}$, $-\text{NH}_2$, $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, partially or fully halogenated $\text{C}_1 - \text{C}_6$ alkyl ($\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

formula VII (compound class G)

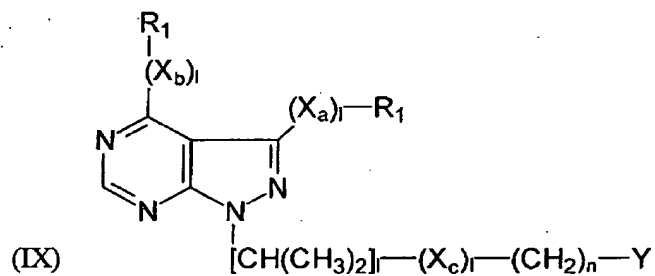


Application No.: 10/523,577
Docket No.: JCLA 16061

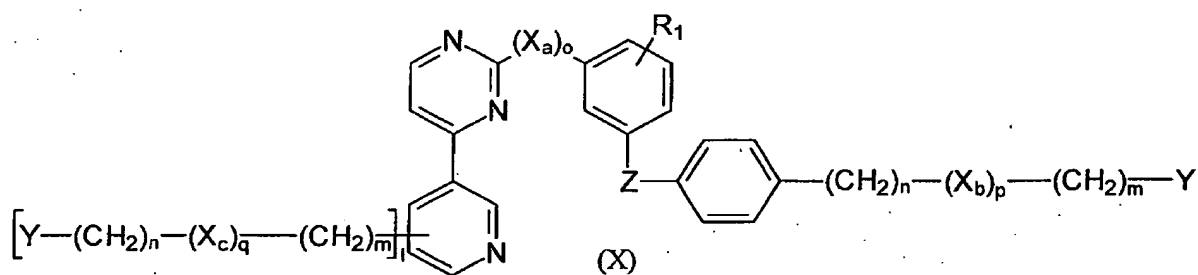
formula VIII (compound class H)



formula IX (compound class I)

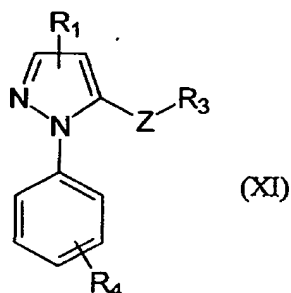


formula X (compound class J)



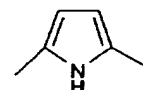
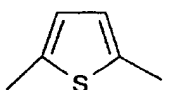
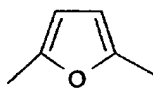
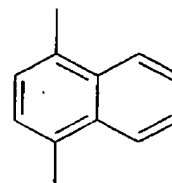
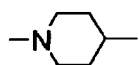
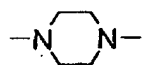
Application No.: 10/523,577
Docket No.: JCLA 16061

or formula XI (compound class K)



wherein

A, X_a, X_b, and X_c are independently selected from Z, -CH₂-, -NH-, -O-, -S-,



each Y is independently selected from -H, -NH₂, -NHR₁, -OH, -SH or -SO(CH₃),

each Z is independently selected from -SO₂-NR₁-, -CO-, -O-CO-, -NH-CO-, -COO-, -CO-NH-, -OCH₂-, -SCH₂-, -NH-CO-NH-,

each l is independently selected to be 0 or 1,

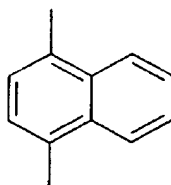
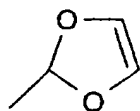
each m is independently selected to be an integer from 0 to 10,

each n is an integer independently selected from 0 to 10,

Application No.: 10/523,577

Docket No.: JCLA 16061

each of o, p, q is an integer independently selected from 0 to 10,
 each R_1 is independently selected from $-H$, $C_1 - C_6$ alkyl (linear or branched), $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, $C_1 - C_6$ partially or fully halogenated alkyl, unsubstituted or substituted $C_3 - C_8$ cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $-CONH_2$, $C_1 - C_6$ alkyl (linear or branched), $-C\equiv C-(CH_2)_n-CH_3$, $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, and/or $C_1 - C_6$ partially or fully halogenated alkyl ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), $-F$, $-Cl$, $-Br$, $-I$, $-COOH$, $-NH_2$,



each R_2 is independently selected from $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $C_1 - C_6$ alkyl (linear or branched), $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, partially or fully halogenated $C_1 - C_6$ alkyl ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

R_3 is $-H$ or $-(R_1)_l-(X_a)_l-(CH_2)_n-(X_b)_l-(CH_2)_n-(Y)_l-R_1$,

Application No.: 10/523,577

Docket No.: JCLA 16061

R_4 is - H or $-(R_1)_l-(Z)_l-(CH_2)_n-(X_b)_l-(CH_2)_n-(Y)_l-R_1$

covalently immobilized on a support material via the group Y.

52. (withdrawn) The medium according to claim 51, wherein at least one of the compounds 4-[4-(4-fluoro-phenyl)-5-pyridine-4-yl-1*H*-imidazole-2-yl]-benzylamine, 2-[4-(2-Amino-ethoxy)-phenylamino]-6-(2,6-dichloro-phenyl)-8-methyl-8*H*-pyrido[2,3-*d*]pyrimidine-7-one, 2-[1-(3-aminopropyl)-1*H*-indole-3-yl]maleimide, 3-[1-(3-Aminopropyl)-1*H*-indol-3-yl]-3-(1*H*-indol-3-yl)-maleimide, 3-[1-(3-Aminopropyl)-1*H*-indol-3-yl]-4-(1-methyl-1*H*-indol-3-yl)maleimide, 3-(8-Aminomethyl-6,7,8,9-tetrahydropyrido-[1,2-*a*]-indol-10-yl)-4-(1-methyl-1*H*-indol-3-yl)-maleimide, [6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-chloro-phenyl)-amine, 6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-chloro-4-fluoro-phenyl)-amine, 6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-bromo-phenyl)-amine and 4-[4-(4-Amino-butyl)-piperazin-1-yl-methyl]-*N*-[4-methyl-3-(4-pyridin-3-yl-pyrimidin-2-ylamino)-phenyl]-benzamide is immobilized on the support material.

53. (previously presented) The medium according to claim 90, wherein the support material comprises agarose and/or modified agarose material.

54. (previously presented) The medium according to claim 90, wherein the support material comprises ferro- or ferrimagnetic particles.

55. (previously presented) The medium according to claim 54, wherein the ferro- or ferrimagnetic particles have a surface area of about 190 m²/g or greater, determined according the BET method and/or wherein the average size of the ferro- or ferrimagnetic particles is from 5 to 25 μm in diameter.

Application No.: 10/523,577
Docket No.: JCLA 16061

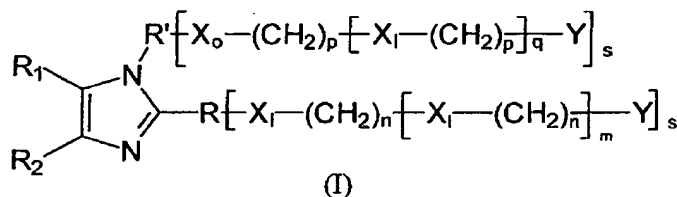
56. (previously presented) The medium according to claim 54, wherein the ferro- or ferrimagnetic particles comprise about 30 to 50 % by weight of Fe_3O_4 and about 50 to 70 % by weight of SiO_2 .

57. (previously presented) The medium according to claim 90, wherein the pool of proteins is a proteome, a cell lysate or a tissue lysate.

58. (previously presented) The medium according to claim 90, wherein the ATP binding protein is a protein kinase.

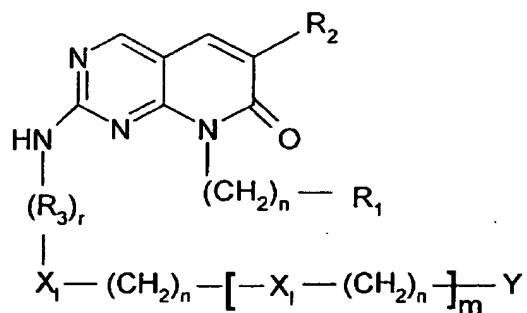
59. (withdrawn) A method for enriching, purifying or depleting at least one ATP binding protein from a pool of proteins containing at least one ATP binding protein, the method comprising the following steps:

- a) immobilizing at least one compound of the general formula I

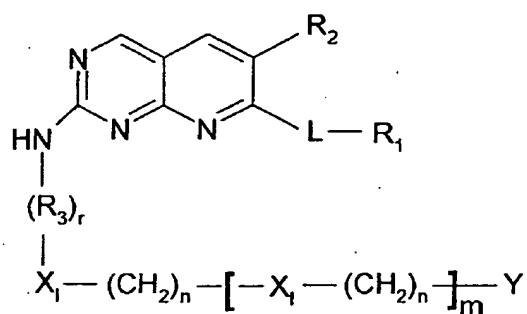


formulas IIa and IIb (compound class B)

Application No.: 10/523,577
Docket No.: JCLA 16061



(IIa)



(IIb)

wherein

each L is independently selected from $-\text{NH}-\text{CO}-\text{NH}-$, $-\text{NH}-\text{SO}_2-$, or $-\text{NH}-\text{CS}-\text{NH}-$,

each X is independently selected from $-\text{CH}_2-$, $-\text{NH}-$, $-\text{O}-$, $-\text{S}-$,



each Y is independently selected from $-\text{NH}_2$, $-\text{NHR}_1$, $-\text{OH}$, $-\text{SH}$ or $-\text{SO}(\text{CH}_3)$,

each l is independently selected to be 0 or 1,

each m is independently selected to be an integer from 0 to 10,

Application No.: 10/523,577

Docket No.: JCLA 16061

each n is independently selected to be an integer from 0 to 10,

each o is independently selected to be 0 or 1,

each p is independently selected to be an integer from 0 to 10,

each q is independently selected to be an integer from 0 to 10,

each r is independently selected to be an integer from 0 to 2,

R and R' are independently of each other $-H$,



and each s is independently selected to be 0 or 1, with the proviso that $s = 0$ if R or R' is H ,

each R_1 is independently selected from $-H$, $C_1 - C_6$ alkyl (linear or branched), bicyclo[3.3.1]heptanyl, or an unsubstituted or partially or fully substituted $C_3 - C_8$ cycloalkyl, aryl, pyridinyl or pyrimidinyl, substituted by $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $-NHCHR_2R_2$, $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, partially or fully halogenated $C_1 - C_6$ alkyl and/or $-X_1-(CH_2)_n-Y$ ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

each R_2 is independently selected from $-H$, $C_1 - C_6$ alkyl (linear or branched), an unsubstituted or partially or fully substituted aryl, substituted by $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $C_1 - C_6$ alkyl (linear or branched), $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, and/or $C_1 - C_6$ partially or fully halogenated alkyl ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl

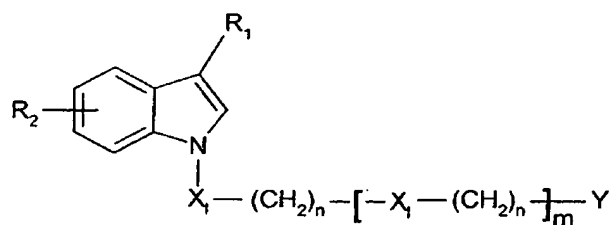
Application No.: 10/523,577

Docket No.: JCLA 16061

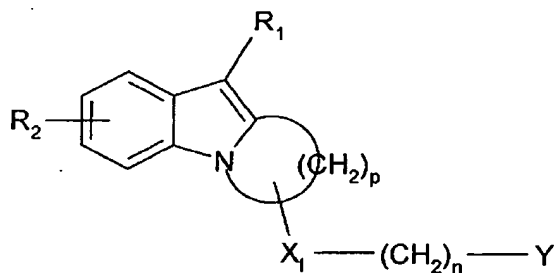
group is linear or branched, C₁ – C₆-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), and

each R₃ is independently selected from X, an unsubstituted or partially or fully substituted aryl, pyridinyl or pyrimidinyl, substituted by –F, –Cl, –Br, –I, –CN, –OH, –SH, –NH₂, –NHCHR₁R₁, C₁ – C₆-alkoxy, C₁ – C₆ -alkylthio, C₁ – C₆ -haloalkyloxy, and/or partially or fully halogenated C₁-C₆ alkyl (C₁ – C₆-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C₁ – C₆-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C₁ – C₆-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C₁ – C₆-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

formulas IIIa and IIIb (compound class C)



(IIIa)

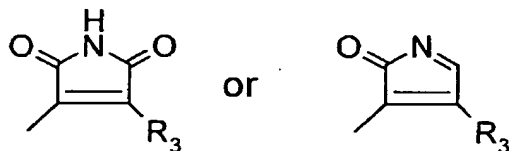


(IIIb)

wherein

Application No.: 10/523,577
Docket No.: JCLA 16061

each R_1 is independently selected from



each R_3 is independently selected from -indolyl, N-($C_1 - C_6$ alkyl)-indolyl (alkyl is linear or branched), $-NHR_1'$, $-SR_1'$, or $-OR_1'$,

R_1' is -H, $C_1 - C_6$ alkyl (linear or branched) or aryl,

each R_2 is independently selected from -H, -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH₂, $C_1 - C_6$ -alkyl (linear or branched), $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, and/or $C_1 - C_6$ partially or fully halogenated alkyl ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

each X is independently selected from $-CH_2-$, $-NH-$, $-O-$, $-S-$,



each Y is independently selected from $-NH_2$, $-NHR_1$, $-OH$, $-SH$ or $-SO(CH_3)$,

each l is independently selected to be 0 or 1,

m is an integer from 0 to 10,

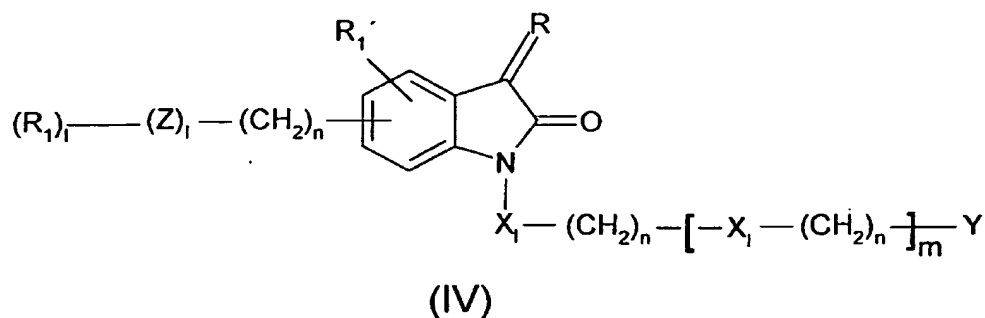
each n is independently selected to be an integer from 0 to 10,

p is an integer from 2 to 6

formula IV (compound class D)

Application No.: 10/523,577

Docket No.: JCLA 16061



wherein

each X is independently selected from $-\text{CH}_2-$, $-\text{NH}-$, $-\text{O}-$, $-\text{S}-$,



each Y is independently selected from $-\text{NH}_2$, $-\text{NHR}_1$, $-\text{OH}$, $-\text{SH}$ or $-\text{SO}(\text{CH}_3)$,

Z is $-\text{SO}_2-\text{NR}_1\text{R}_1$, $-\text{CO}-$, $-\text{O}-\text{CO}-$, $-\text{NH}-\text{CO}-$, $-\text{COO}-$, $-\text{CO}-\text{NH}-$, $-\text{OCH}_2-$, $-\text{SCH}_2-$,

each l is independently selected to be 0 or 1,

m is an integer from 0 to 10,

each n is independently selected to be an integer from 0 to 10,

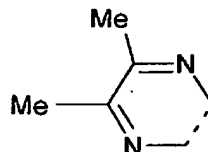
R is $=\text{CR}_1\text{L}$, $=\text{N}-\text{NH}-\text{L}$

each R_1 is independently selected from $-\text{H}$, $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), unsubstituted or partially or fully substituted aryl, pyridinyl, pyrimidinyl, $\text{C}_3 - \text{C}_8$ cycloalkyl substituted by $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{CN}$, $-\text{OH}$, $-\text{SH}$, $-\text{NH}_2$, $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or $\text{C}_1 - \text{C}_6$ partially or fully halogenated alkyl ($\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group, $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group, $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group, $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or

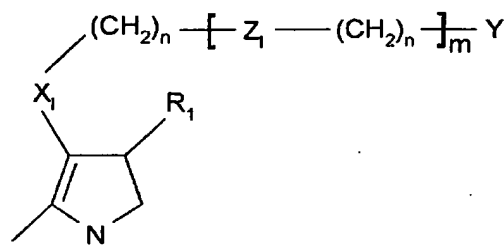
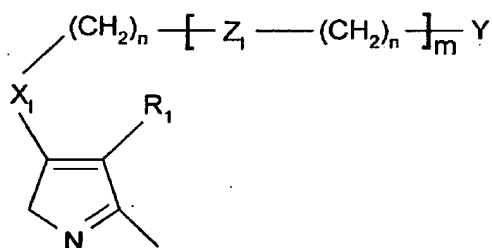
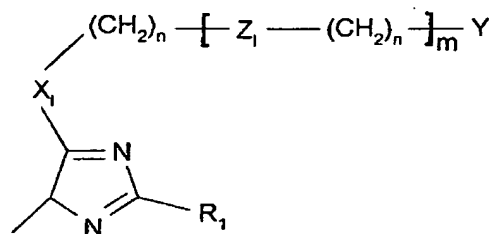
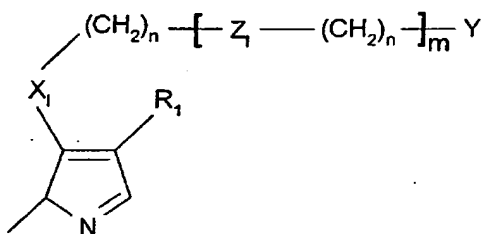
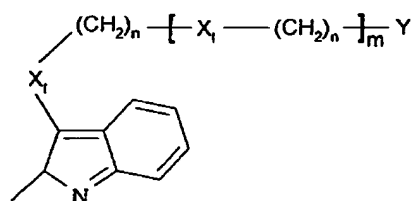
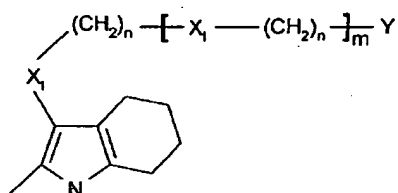
Application No.: 10/523,577

Docket No.: JCLA 16061

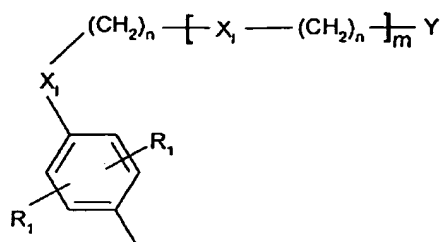
branched), -F, -Cl, -Br, -I, -COOH, $-(CH_2)_n-OH$, oxazolyl, thiazolyl, thienyl, pyrrolyl, furanyl, imidazolyl, pyrazolyl, pyridinyl, pyrimidinyl, R_1' is independently selected from H or R_1 and R_1' may form together the following substituted ringsystem



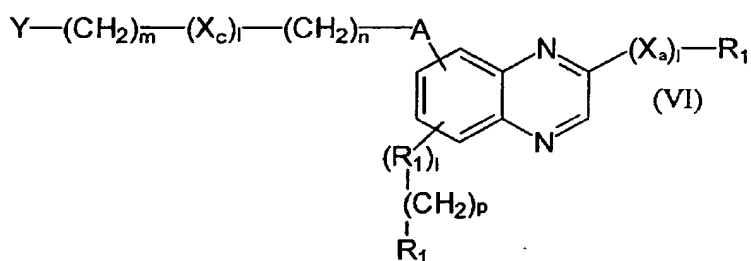
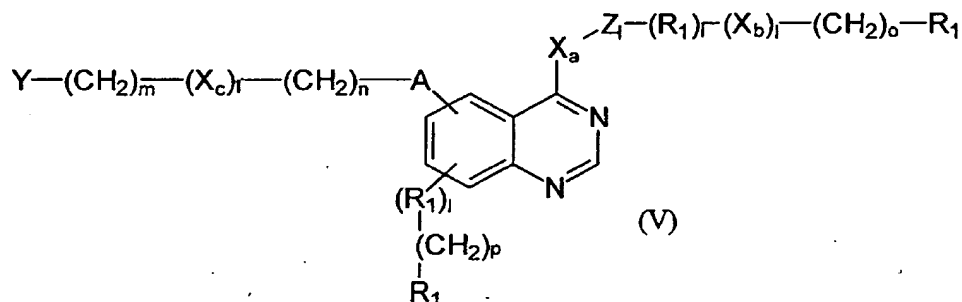
L is



Application No.: 10/523,577
Docket No.: JCLA 16061



formulas V and VI (compound class E and F)

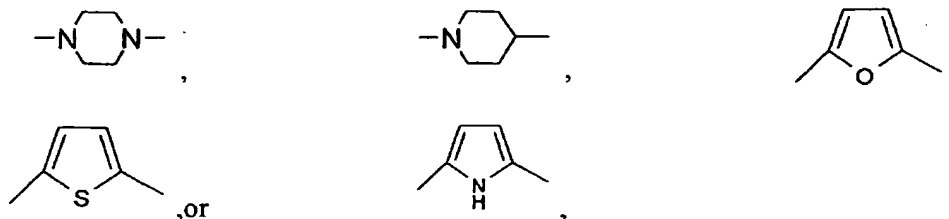


wherein

A , X_a , X_b , and X_c are independently selected to be Z , $-CH_2-$, $-NH-$, $-O-$, $-S-$,

Application No.: 10/523,577

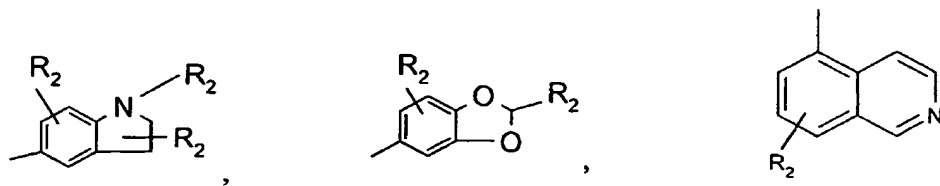
Docket No.: JCLA 16061



each Y is independently -NH_2 , -NHR_1 , -OH , -SH or $\text{-SO(CH}_3\text{)}$,
 each Z is independently selected from $\text{-SO}_2\text{-NR}_1\text{-}$, -CO- , -O-CO- , -NH-CO- , -COO- , -CO-NH- , -CS-NH- , $\text{-OCH}_2\text{-}$, $\text{-SCH}_2\text{-}$, or -NH-CO-NH- ,
 each l is independently selected to be 0 or 1,
 each m is independently selected to be an integer from 0 to 10,
 each n is independently selected to be an integer from 0 to 10,
 each o is independently selected to be an integer from 0 to 10,
 each p is independently selected to be an integer from 0 to 10,
 each R_1 is independently selected from -H , -O- , $\text{C}_1\text{ - C}_6$ alkyl (linear or branched), $\text{C}_1\text{ - C}_6$ -alkoxy, $\text{C}_1\text{ - C}_6$ -alkylthio, $\text{C}_1\text{ - C}_6$ -haloalkyloxy, $\text{C}_1\text{-C}_6$ partially or fully halogenated alkyl, unsubstituted or partially or fully substituted $\text{C}_3\text{ - C}_8$ cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by -F , -Cl , -Br , -I , -CN , -OH , -SH , -NH_2 , -CONH_2 , $\text{C}_1\text{ - C}_6$ alkyl (linear or branched), $\text{-C}\equiv\text{C-(CH}_2\text{)}_n\text{-CH}_3$, $\text{C}_1\text{ - C}_6$ -alkoxy, $\text{C}_1\text{ - C}_6$ -alkylthio, $\text{C}_1\text{ - C}_6$ -haloalkyloxy, and/or $\text{C}_1\text{-C}_6$ partially or fully halogenated alkyl ($\text{C}_1\text{ - C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1\text{ - C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1\text{ - C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $\text{C}_1\text{ - C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

Application No.: 10/523,577

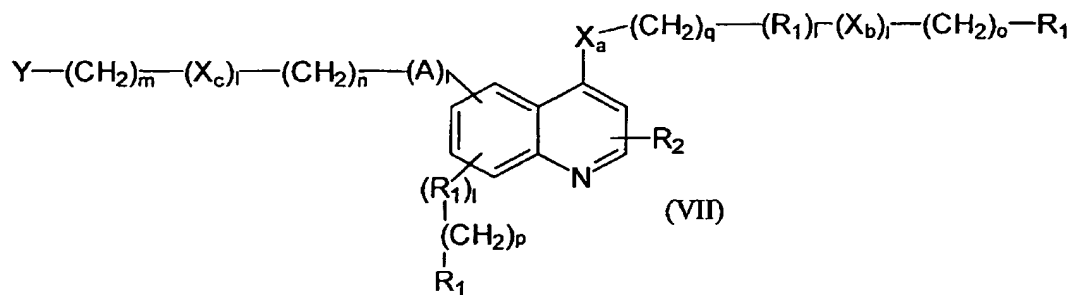
Docket No.: JCLA 16061



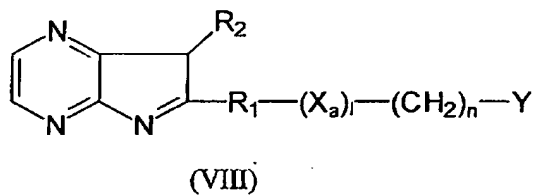
each R₂ is independently selected from -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH₂, C₁-C₆ alkyl (linear or branched), C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-haloalkyloxy, partially or fully halogenated C₁-C₆ alkyl (C₁-C₆-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C₁-C₆-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C₁-C₆-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C₁-C₆-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

Application No.: 10/523,577
Docket No.: JCLA 16061

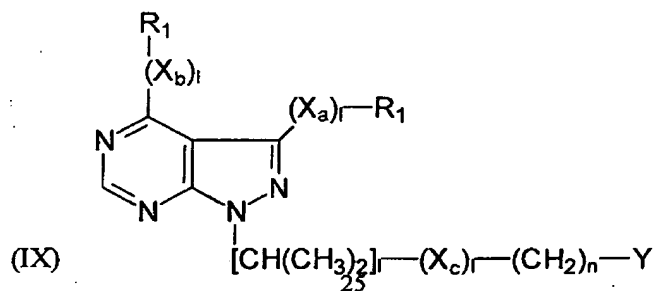
formula VII (compound class G)



formula VIII (compound class H)

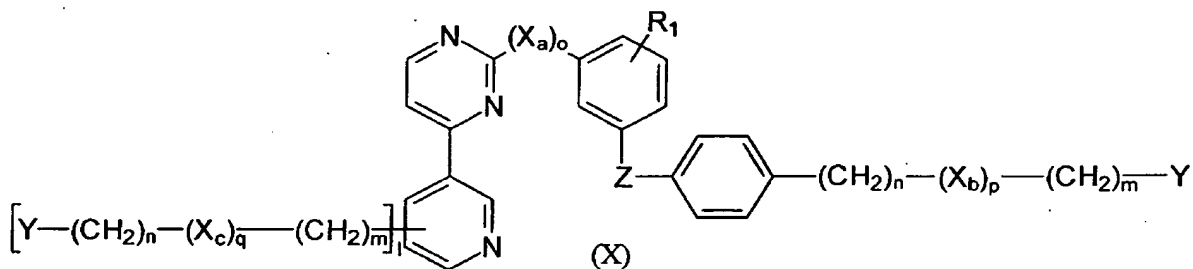


formula IX (compound class I)

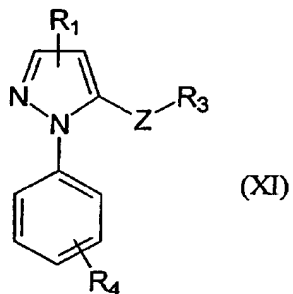


Application No.: 10/523,577
Docket No.: JCLA 16061

formula X (compound class J)



or formula XI (compound class K)

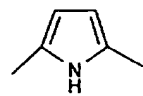
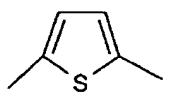
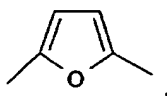
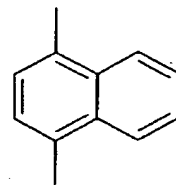
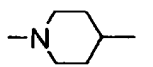
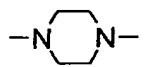


wherein

A, X_a , X_b , and X_c are independently selected from Z, $-CH_2-$, $-NH-$, $-O-$, $-S-$,

Application No.: 10/523,577

Docket No.: JCLA 16061



each Y is independently selected from $-H$, $-NH_2$, $-NHR_1$, $-OH$, $-SH$ or $-SO(CH_3)$,

each Z is independently selected from $-SO_2-NR_1-$, $-CO-$, $-O-CO-$, $-NH-CO-$, $-COO-$, $-CO-NH-$, $-OCH_2-$, $-SCH_2-$, $-NH-CO-NH-$,

each l is independently selected to be 0 or 1,

each m is independently selected to be an integer from 0 to 10,

each n is an integer independently selected from 0 to 10,

each of o, p, q is an integer independently selected from 0 to 10,

each R_1 is independently selected from $-H$, $C_1 - C_6$ alkyl (linear or branched), $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, $C_1 - C_6$ partially or fully halogenated alkyl, unsubstituted or substituted $C_3 - C_8$ cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $-CONH_2$, $C_1 - C_6$ alkyl (linear or branched), $-C\equiv C-(CH_2)_n-CH_3$, $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, and/or $C_1 - C_6$ partially or fully halogenated alkyl ($C_1 - C_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $C_1 - C_6$ -

Application No.: 10/523,577

Docket No.: JCLA 16061

haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), -F, -Cl, -Br, -I, -COOH, -NH₂,



each R₂ is independently selected from -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH₂, C₁ - C₆ alkyl (linear or branched), C₁ - C₆-alkoxy, C₁ - C₆ -alkylthio, C₁ - C₆-haloalkyloxy, partially or fully halogenated C₁-C₆ alkyl (C₁ - C₆-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C₁ - C₆-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C₁ - C₆-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C₁ - C₆-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

R₃ is -H or -(R₁)_l-(X_a)_l-(CH₂)_n-(X_b)_l-(CH₂)_n-(Y)_l-R₁,

R₄ is -H or -(R₁)_l-(Z)_l-(CH₂)_n-(X_b)_l-(CH₂)_n-(Y)_l-R₁

covalently on a support material via the group Y;

- b) bringing the pool of proteins containing at least one protein kinase into contact with at least one of the compounds immobilized on the support material; and
- c) separating the proteins not bound to the at least one compound immobilized on the support material from the at least one protein kinase bound to the at least one compound immobilized on the support material.

60. (withdrawn) The method according to claim 59, wherein the at least one compound immobilized on the support material is 4-[4-(4-fluoro-phenyl)-5-pyridine-4-yl-1H-

Application No.: 10/523,577

Docket No.: JCLA 16061

imidazole-2-yl]-benzylamine, 2-[4-(2-Amino-ethoxy)-phenylamino]-6-(2,6-dichloro-phenyl)-8-methyl-8*H*-pyrido[2,3-*d*]pyrimidine-7-one, 2-[1-(3-aminopropyl)-1*H*-indole-3-yl]maleimide, 3-[1-(3-Aminopropyl)-1*H*-indol-3-yl]-3-(1*H*-indol-3-yl)-maleimide, 3-[1-(3-Aminopropyl)-1*H*-indol-3-yl]-4-(1-methyl-1*H*-indol-3-yl)maleimide, 3-(8-Aminomethyl-6,7,8,9-tetrahydropyrido-[1,2-*a*]-indol-10-yl)-4-(1-methyl-1*H*-indol-3-yl)-maleimide, [6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-chloro-phenyl)-amine, 6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-chloro-4-fluoro-phenyl)-amine, 6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-bromo-phenyl)-amine and 4-[4-(4-Amino-butyl)-piperazin-1-yl-methyl]-*N*-[4-methyl-3-(4-pyridin-3-yl-pyrimidin-2-ylamino)-phenyl]-benzamide.

61. (withdrawn) The method according to claim 59, further comprising a step:

d) releasing the at least one protein kinase bound to the at least one compound immobilized on the support material from the at least one of said compounds and collecting the released at least one protein kinase.

62. (withdrawn) The method according to claim 59, wherein the support material comprises agarose and/or modified agarose material.

63. (withdrawn) The method according to claim 59, wherein the support material comprises ferro- or ferrimagnetic particles.

64. (withdrawn) The method according to claim 59, wherein in step c) the separation of the proteins not bound to the at least one compound immobilized on the support material from the at least one ATP binding protein bound to the at least one compound immobilized on the support material is effected by washing with a buffer containing 5 to 500 mM Hepes pH 6.5-8.5 or 5 to 500 mM Tris-HCl pH 6.8 to 9.0, 0 to 1000 mM NaCl, 0.0 to 5% Triton X-100, 0 to 500 mM EDTA, and 0 to 200 mM EGTA.

Application No.: 10/523,577
Docket No.: JCLA 16061

65. (withdrawn) The method according to claim 64, wherein the buffer contains 20 mM Hepes/NaOH pH 7.5, 150 mM NaCl, 0.25% Triton X-100, 1 mM EDTA, and 1 mM EGTA.

66. (withdrawn) The method according to one of claims 61, wherein in step d) the release of the at least one protein kinase bound to the at least one compound immobilized on the support material is effected by washing with a buffer containing 5 to 500 mM Hepes pH 6.5-8.5 or 5 to 500 mM Tris-HCl pH 6.8 to 9.0, 0 to 1000 mM NaCl, 0.0 to 5.0% Triton X-100, 0 to 500 mM EDTA, 0 to 200 mM EGTA, 1 to 100 mM ATP, 1 to 200 mM $MgCl_2$ and 0.1 to 10 mM of at least one of the compounds immobilized on the support material.

67. (withdrawn) The method according to claim 66, wherein the buffer contains 20 mM Hepes pH 7.5, 150 mM NaCl, 0.25% Triton X-100, 1 mM EDTA, 1 mM EGTA, 10 mM ATP, 20mM $MgCl_2$ and 1 mM of at least one of the compounds immobilized on the support material.

68. (withdrawn) The method according to claim 59, wherein the pool of proteins is a proteome, cell lysate or tissue lysate.

69. (withdrawn) The method according to claim 59, wherein the ATP binding protein is a protein kinase.

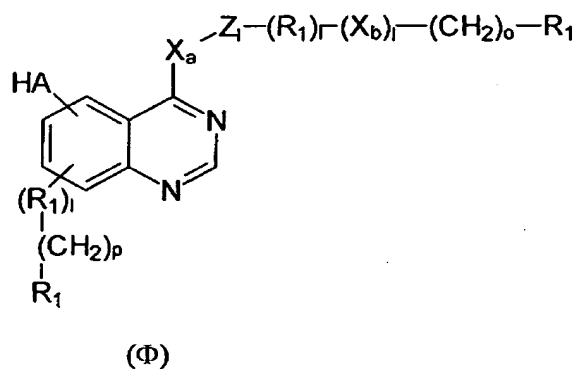
70. (withdrawn) The method according to claim 59, wherein the at least one ATP binding protein is enriched at least 100-fold from the pool of proteins.

71. (withdrawn) The method according to claim 70, wherein the at least one ATP binding protein is enriched at least 10^4 -fold and preferably up to 10^6 -fold.

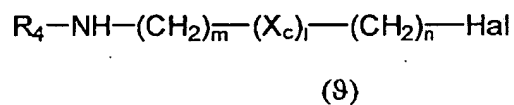
72. (previously presented) Kit comprising a medium according to general formula (V) of claim 90.

Application No.: 10/523,577

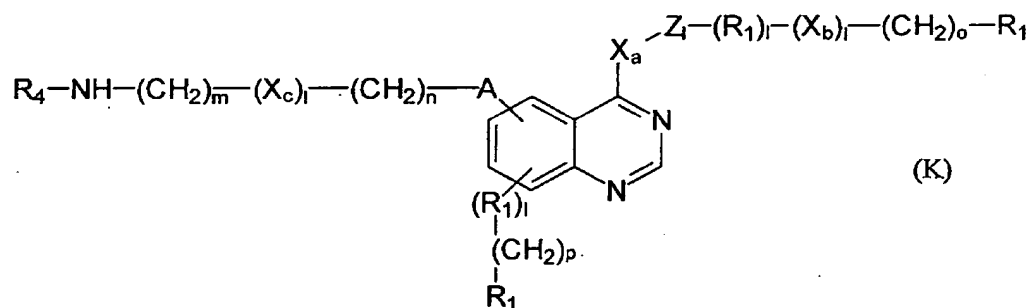
Docket No.: JCLA 16061



with a compound of the general formula (9)



to give compound (K)



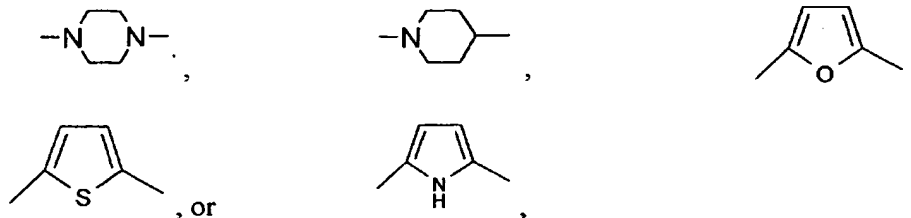
wherein the reaction is carried out in the presence of a base and an inert solvent,

and wherein A is -O-, -S-, -NH-,

Hal is -Cl, -Br, or -I,

Xa, Xb, and Xc are independently selected from Z, -CH2-, -NH-, -O-, -S-,

Application No.: 10/523,577
Docket No.: JCLA 16061

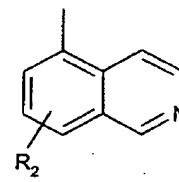
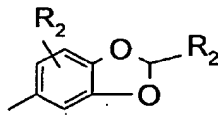
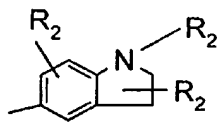


Z is $-\text{SO}_2\text{NR}_1-$, $-\text{CO}-$, $-\text{O}-\text{CO}-$, $-\text{NH}-\text{CO}-$, $-\text{COO}-$, $-\text{CO}-\text{NH}-$, $-\text{CS}-\text{NH}-$, $-\text{OCH}_2-$, $-\text{SCH}_2-$, or $-\text{NH}-\text{CO}-\text{NH}-$,

l is independently selected for each moiety to be 0 or 1,

each of m, n, o, and p is an integer independently selected for each moiety from 0–10,

R_1 is independently selected from $-\text{H}$, $-\text{O}-$, $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, C_1 - C_6 partially or fully halogenated alkyl, unsubstituted or partially or fully substituted $\text{C}_3 - \text{C}_8$ cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{CN}$, $-\text{OH}$, $-\text{SH}$, $-\text{NH}_2$, $-\text{CONH}_2$, $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), $-\text{C}\equiv\text{C}-(\text{CH}_2)_n-\text{CH}_3$, $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or C_1 - C_6 partially or fully halogenated alkyl ($\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),



Application No.: 10/523,577

Docket No.: JCLA 16061

R_2 is $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, $C_1 - C_6$ alkyl (linear or branched), $C_1 - C_6$ -alkoxy, $C_1 - C_6$ -alkylthio, $C_1 - C_6$ -haloalkyloxy, partially or fully halogenated, $C_1 - C_6$ alkyl ($C_1 - C_6$ -alkoxy denotes an O-alkyl group, $C_1 - C_6$ -alkylthio denotes an S-alkyl group, $C_1 - C_6$ -haloalkyloxy denotes an halogen-alkyl-O group, $C_1 - C_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

R_4 is a leaving group, selected from the group consisting of t-butyloxycarbonyl (BOC), fluorene-9-ylmethoxycarbonyl (Fmoc) or benzyloxycarbonyl and further comprising as step (B):

cleaving off the leaving group R_4 to give compound (O) or a salt thereof.

77. (withdrawn) The method according to claim 76, wherein the base used in reaction step (A) is K_2CO_3 or Na_2CO_3 and the inert solvent is selected from the group consisting of acetonitrile, acetone, toluene, THF or DMF.

78. (withdrawn) The method according to claim 76, wherein in compounds (Φ), (9) and (K),

l is 0, o is 0, p is 0, and m is 0,

n is an integer selected from 1 to 8, preferably from 2 to 6, and most preferably is 4,

X is $-NH-$,

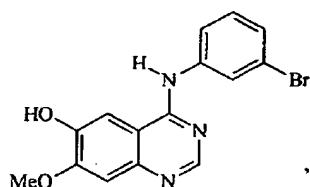
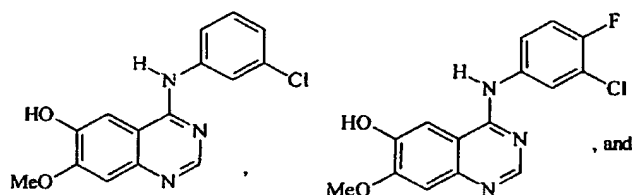
R_3 is $C_1 - C_6$ alkyl (linear or branched), and

R_1 is an unsubstituted or partially or fully substituted aryl, wherein the aryl is substituted by at least one of the substituents comprised in the group consisting of $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH-$, $C_1 - C_6$ -alkylthio, and benzyloxy-.

79. (withdrawn) The method according to claim 76, wherein compound (Φ) is selected from the group consisting of

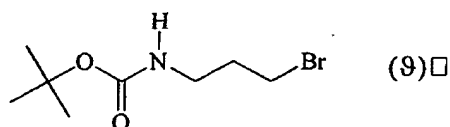
Application No.: 10/523,577

Docket No.: JCLA 16061



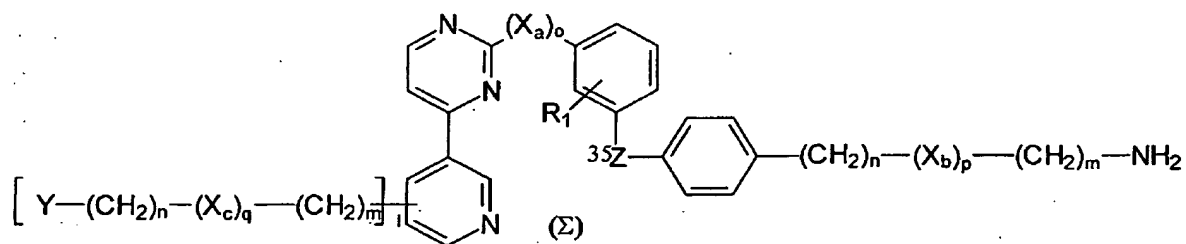
(Φ)

and compound (9) is



80. (withdrawn) The method according to claim 76, wherein the leaving group R_4 is removed from compound (K) by contacting compound (K) with hydrochloric acid as the protonic acid, preferably by contacting compound (K) with a solution of hydrochloric saturated ethylacetate.

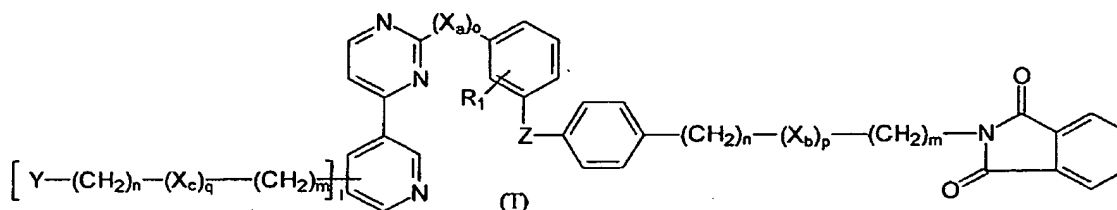
81. (withdrawn) A method of making a compound with the general formula (Σ)



Application No.: 10/523,577
Docket No.: JCLA 16061

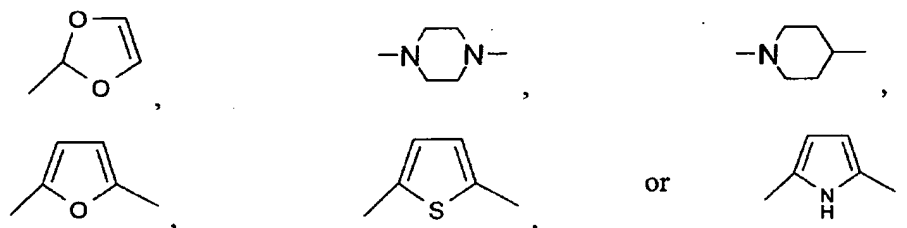
comprising the steps (A):

reacting a compound of the general formula (T)



with hydrazine in a protic solvent and subsequently reacting the crude reaction product with an aqueous solution of an protonic acid, wherein in compounds (Σ) and (T)

X_a , X_b and X_c are independently selected from the group consisting of Z , $-CH_2-$, $-NH-$, $-O-$, $-S-$,



Y is $-NH_2$, $-NHR_1$, $-OH$, $-SH$ or $-SO(CH_3)$,

Z is $-SO_2-NR_1$, $-CO-$, $-O-CO-$, $-NH-CO-$, $-COO-$, $-CO-NH-$, $-OCH_2-$, or $-SCH_2-$,

l is independently selected to be 0 or 1,

m is an integer independently selected from 0 to 10,

n is an integer independently selected from 0 to 10,

o is an integer independently selected from 0 to 10,

p is an integer independently selected from 0 to 10,

Application No.: 10/523,577
Docket No.: JCLA 16061

q is an integer independently selected from 0 to 10, and

R₁ is independently selected from -H, C₁ - C₆ alkyl (linear or branched), C₁ - C₆-alkoxy, C₁ - C₆-alkylthio, C₁ - C₆-haloalkyloxy, C₁-C₆ partially or fully halogenated alkyl, unsubstituted or substituted C₃ - C₈ cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by -F, -Cl, -Br, -I, -CN, -OH, -SH, -NH₂, -CONH₂, C₁ - C₆ alkyl (linear or branched), -C≡C-(CH₂)_n-CH₃, C₁ - C₆-alkoxy, C₁ - C₆-alkylthio, C₁ - C₆-haloalkyloxy, and/or C₁-C₆ partially or fully halogenated alkyl (C₁ - C₆-alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C₁ - C₆-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C₁ - C₆-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C₁ - C₆-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched), -F, -Cl, -Br, -I, -COOH, -NH₂,



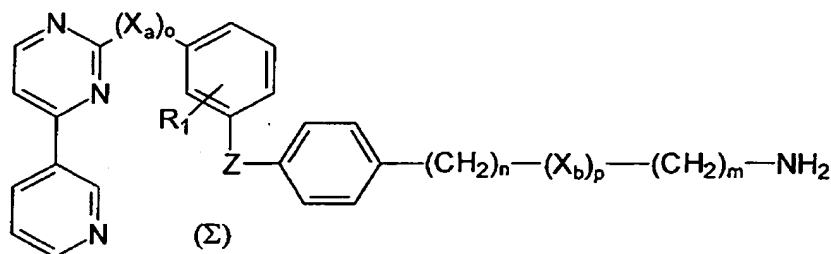
82. (withdrawn) The method of claim 81, wherein the protic solvent is selected from the group of alkyl alcohols, preferably from the group consisting of methanol, ethanol, propanol, iso-propanol, n-butanol and iso-butanol, and most preferably is ethanol.

83. (withdrawn) The method according to claim 81, wherein the protonic acid is selected from hydrochloric acid or hydrobromic acid, and preferably is hydrochloric acid.

84. (withdrawn) The method according to claim 81, wherein (Σ) is

Application No.: 10/523,577

Docket No.: JCLA 16061

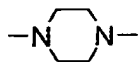


and wherein o is 1 and X_a is $-NH-$,

Z is $-CO-NH-$,

R_1 is an alkyl group,

and X_b is:

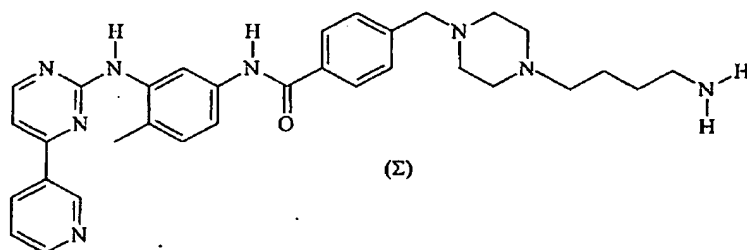


85. (withdrawn) The method according to claim 81, wherein

l is 0, m is 0, and

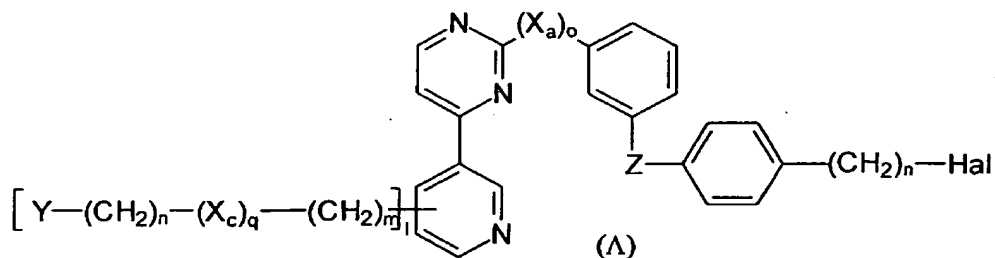
n is an integer selected from 1 to 6, preferably from 2 to 4 and most preferably is 4.

86. (withdrawn) The method according to claim 81, wherein the compound (Σ) is

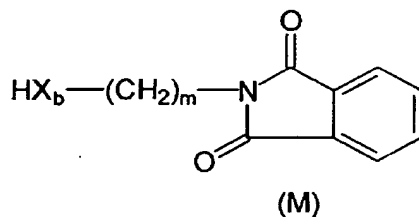


87. (withdrawn) The method according to claim 81, further comprising the step of providing the compound (T) by reaction of compound (Λ) or a salt thereof

Application No.: 10/523,577
Docket No.: JCLA 16061



with compound (M) or salt thereof



in the presence of a base,

wherein Hal is a halogen selected, preferably selected from the group consisting of -Cl, -Br, and -I, and preferably is -Br, and

wherein X_a , X_b and X_c , Y, Z, R_1 , l, m, n, o, p, and q have the same meaning as in compounds (T) and (Σ) as defined in claim 29.

88. (withdrawn) The method according to claim 87, wherein the base is selected from the group consisting of ammonia, primary amines, especially primary alkyl amines, secondary amines, especially secondary alkylamines or tertiary amines, especially tertiary alkylamines, and preferably is triethylamine.

89. (withdrawn) The method according to claim 87, wherein in compound (A)

l is 0

X_a is -NH-,


Application No.: 10/523,577

Docket No.: JCLA 16061

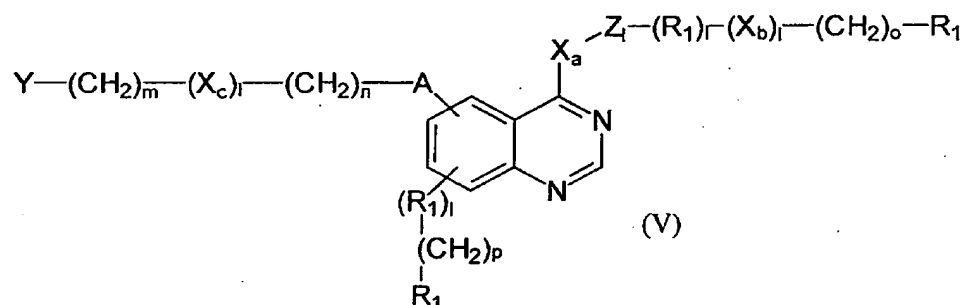
R_1 is a linear or branched C_1 - C_6 -alkyl, preferably $-CH_3$,

Z is $-NHCO-$,

n is an integer from 1 to 8, preferably from 1 to 4, and most preferably is 1, and

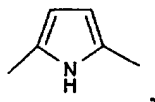
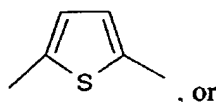
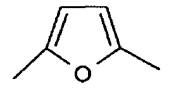
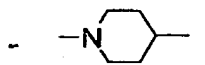
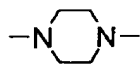
X_b is 

90. (previously presented) A medium for separating at least one ATP binding protein from a pool of proteins, the medium comprising at least one compound of the general formula V (compound class E):



wherein

A , X_a , X_b , and X_c , are independently selected to be Z , $-CH_2-$, $-NH-$, $-O-$, $-S-$,



each Y is independently $-NH_2$, $-NHR_1$, $-OH$, $-SH$ or $-SO(CH_3)$,

Application No.: 10/523,577

Docket No.: JCLA 16061

each Z is independently selected from $-\text{SO}_2-\text{NR}_1-$, $-\text{CO}-$, $-\text{O}-\text{CO}-$, $-\text{NH}-\text{CO}-$, $-\text{COO}-$, $-\text{CO}-\text{NH}-$, $-\text{CS}-\text{NH}-$, $-\text{OCH}_2-$, $-\text{SCH}_2-$, or $-\text{NH}-\text{CO}-\text{NH}-$,

each l is independently selected to be 0 or 1,

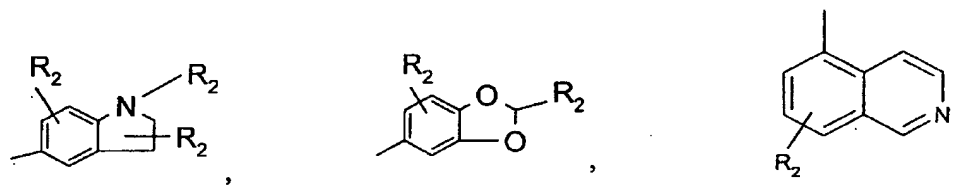
each m is independently selected to be an integer from 0 to 10,

each n is independently selected to be an integer from 0 to 10,

each o is independently selected to be an integer from 0 to 10,

each p is independently selected to be an integer from 0 to 10,

each R_1 is independently selected from $-\text{H}$, $-\text{O}-$, $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, $\text{C}_1 - \text{C}_6$ partially or fully halogenated alkyl, unsubstituted or partially or fully substituted $\text{C}_3 - \text{C}_8$ cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{CN}$, $-\text{OH}$, $-\text{SH}$, $-\text{NH}_2$, $-\text{CONH}_2$, $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), $-\text{C}\equiv\text{C}-(\text{CH}_2)_n-\text{CH}_3$, $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or $\text{C}_1 - \text{C}_6$ partially or fully halogenated alkyl ($\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),



each R_2 is independently selected from $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{CN}$, $-\text{OH}$, $-\text{SH}$, $-\text{NH}_2$, $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, partially or fully halogenated $\text{C}_1 - \text{C}_6$ alkyl ($\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched,

Application No.: 10/523,577

Docket No.: JCLA 16061

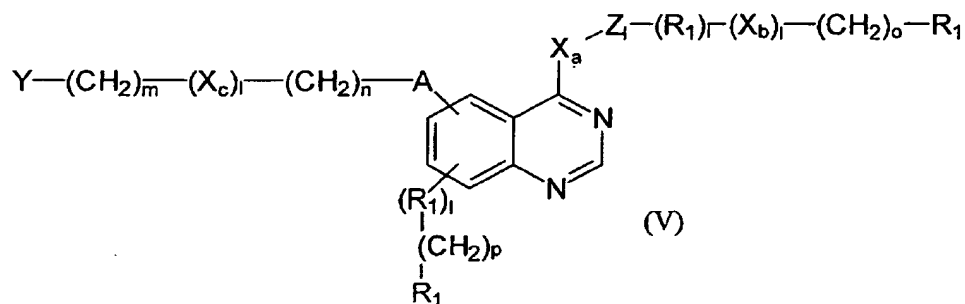
C₁ – C₆-alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C₁ – C₆-haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C₁ – C₆-haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched)

immobilized on a solid material.

91. (previously presented) The medium according to claim 90, wherein the at least one compound immobilized on the support material is 6-(3-Amino-propoxy)-7-methoxy-quinazoline-4-yl]-(3-chloro-4-fluoro-phenyl)-amine.

92. (withdrawn) A method for enriching, purifying or depleting at least one ATP binding protein from a pool of proteins containing at least one ATP binding protein, the method comprising the following steps:

a) immobilizing at least one compound of the general formula V (Compound Class E) covalently on a support material via the group Y:

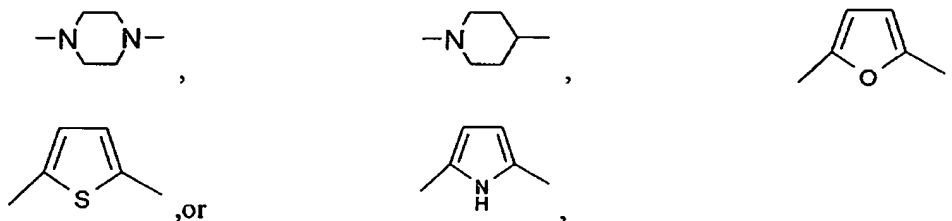


wherein

A, X_a, X_b, and X_c are independently selected to be Z, -CH₂-, -NH-, -O-, -S-,

Application No.: 10/523,577

Docket No.: JCLA 16061



each Y is independently -NH_2 , -NHR_1 , -OH , -SH or $\text{-SO(CH}_3\text{)}$,

each Z is independently selected from $\text{-SO}_2\text{-NR}_1\text{-}$, -CO- , -O-CO- , -NH-CO- , -COO- , -CO-NH- , -CS-NH- , $\text{-OCH}_2\text{-}$, $\text{-SCH}_2\text{-}$, or -NH-CO-NH- ,

each l is independently selected to be 0 or 1,

each m is independently selected to be an integer from 0 to 10,

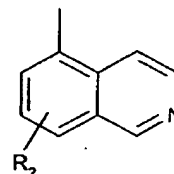
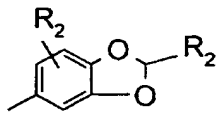
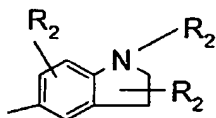
each n is independently selected to be an integer from 0 to 10,

each o is independently selected to be an integer from 0 to 10,

each p is independently selected to be an integer from 0 to 10,

each R_1 is independently selected from -H , -O- , $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, $\text{C}_1 - \text{C}_6$ partially or fully halogenated alkyl, unsubstituted or partially or fully substituted $\text{C}_3 - \text{C}_8$ cycloalkyl, an unsubstituted or partially or fully substituted aryl, wherein the cycloalkyl and the aryl are optionally substituted by -F , -Cl , -Br , -I , -CN , -OH , -SH , -NH_2 , -CONH_2 , $\text{C}_1 - \text{C}_6$ alkyl (linear or branched), $\text{-C}\equiv\text{C-(CH}_2\text{)}_n\text{-CH}_3$, $\text{C}_1 - \text{C}_6$ -alkoxy, $\text{C}_1 - \text{C}_6$ -alkylthio, $\text{C}_1 - \text{C}_6$ -haloalkyloxy, and/or $\text{C}_1 - \text{C}_6$ partially or fully halogenated alkyl ($\text{C}_1 - \text{C}_6$ -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, $\text{C}_1 - \text{C}_6$ -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

Application No.: 10/523,577
Docket No.: JCLA 16061



each R_2 is independently selected from $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-SH$, $-NH_2$, C_1-C_6 alkyl (linear or branched), C_1-C_6 -alkoxy, C_1-C_6 -alkylthio, C_1-C_6 -haloalkyloxy, partially or fully halogenated C_1-C_6 alkyl (C_1-C_6 -alkoxy denotes an O-alkyl group wherein the alkyl group is linear or branched, C_1-C_6 -alkylthio denotes an S-alkyl group wherein the alkyl group is linear or branched, C_1-C_6 -haloalkyloxy denotes an halogen-alkyl-O group wherein the alkyl group is linear or branched, C_1-C_6 -haloalkyl denotes an halogen-alkyl group wherein the alkyl group is linear or branched),

- b) bringing the pool of proteins containing at least one protein kinase into contact with at least one of the compounds immobilized on the support material; and
- c) separating the proteins not bound to the at least one compound immobilized on the support material from the at least one protein kinase bound to the at least one compound immobilized on the support material.

93. (withdrawn) The method according to claim 92, wherein the at least one compound immobilized on the support material is 6-(3-Amino-propoxy)-7-methoxy-quinazolin-4-yl]-(3-chloro-4-fluoro-phenyl)-amine.

94. (previously presented) The medium according to claim 90, wherein each Y is independently $-NH_2$, $-NHR_1$, $-OH$, or $-SH$.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☒ **BLACK BORDERS**

☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**

☐ **FADED TEXT OR DRAWING**

☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**

☐ **SKEWED/SLANTED IMAGES**

☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**

☐ **GRAY SCALE DOCUMENTS**

☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**

☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**

☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.